Talking Points for East Tennessee Ozone Study Science Workshop

- Thanks to:
  - Senators Frist and Alexander for supporting ETOS
  - LaToya Myles (ARL) for organizing the workshop
- Air quality is a serious national issue
  - More than half of the U.S. population is exposed to air pollution levels that exceed EPA's health-based standards.
  - Primary concerns are ozone and fine particulate matter
  - Very large personal and economic consequences. Annually:
    - Causes tens of thousands of deaths
    - Health impacts cost the Nation > $100B
    - Air pollution controls cost > $20B
- NOAA Research
  - Vision: Societally relevant research that forms the scientific basis for more productive and harmonious relationships between humans and their environment.
  - Works with stakeholders to understand key issues
  - Partners with academia, the private sector, and agencies at all levels of government to enable the Nation to effectively resolve and avoid issues
- NOAA Air Quality Research
  - NOAA has world-class researchers in Oak Ridge (two DOC gold medals, one bronze medal, and a NOAA Administrator's Award) and several other locations making discoveries and developing tools that help the Nation address air quality issues.
  - Two goals
    - (1) Response to immediate problems: Provide air quality forecast guidance so people can take appropriate action to limit adverse effects of poor air quality
    - (2) Enable the Nation to prevent future problems: Provide information and tools that enable air quality decision-makers to develop better policies and plans to protect public health while also maintaining a vital economy.
    - Making great strides in both areas
    - NOAA Research will spend $4.5M this year for ongoing air quality research.
    - President Bush has requested an additional $2M to accelerate development of required new forecast capabilities and to extend research on the causes of air quality issues.
    - NOAA Research conducts this work in close collaboration with NWS, Federal and state agencies (e.g., EPA, DOE, state environmental agencies), academia, and the private sector
- Air Quality Forecasting
  - Producing information used by state and local air quality forecasters, who issue official forecasts and alerts
  - Also used by people who want more detail (time and space) than is available from official forecasts (e.g., "air quality will be red today for the metro region").

- Over the past several years, NOAA Research, the National Weather Service, and EPA have developed an operational ozone modeling system. Deployed incrementally.
- The initial capability deployed in September, 2004 provided guidance for the Northeastern U.S., covering all of Tennessee.
- Current operational guidance covers the eastern U.S.
- By 2009, ozone forecast guidance will be available nationwide
- By 2012, NOAA will start producing guidance for fine particulate matter, starting with the Northeastern U.S.

- Information and tools for Decision-Makers
  - Provide policy-relevant information to enable the Nation and individual communities to prevent future air quality problems
  - A key source of the scientific basis for the policy-relevant information is regional field experiments that characterize the atmospheric processes that are the key drivers of air quality problems. Each regional study provides information to inform national discussions while also elucidating unique regional issues.
  - Examples
    - Southern Oxidants Study (SOS), which included intensive work in Nashville and central Tennessee in 1995 and 1999: characterized unique pollution drivers for the southeastern U.S., such as the importance of natural emissions from the regions abundant forests when combined with those from urban and industrial sources. SOS findings have contributed significantly to the development of national policy and regional air quality management strategies. Also, quantified the impact of distant forest fires on local air quality.
    - Texas Air Quality Study (2000): NOAA discovered that unexpectedly large emissions of highly reactive volatile organic compounds were a key contributor to poor air quality in the Houston region. That information allowed the State of Texas to develop a more focused plan for achieving good air quality, which will save the state more than $9 billion and 64,000 jobs by 2010 while still protecting public health.
    - New England Air Quality Study (2004): NOAA demonstrated that nighttime chemical reactions play an important role in modulating the contribution of distant pollution sources to local air quality problems. Also, quantified the impact of distant forest fire on local air quality.
- Eastern Tennessee Ozone Study
  - The Eastern Tennessee Ozone Study exemplifies how NOAA works with partners to address key societal issues
  - Goal: generate data and understanding to improve air quality forecasting and to guide the design of effective regulations and control strategies.
  - Leverages partnerships with local, state, and Federal agencies and academia
  - Past results include determining that long range transport of ozone into the East Tennessee Valley is a significant contributor to local observations
- Appreciate your participation in this workshop